

**REMARKS**

**Status of the Claims**

Claims 1, 3, 4, 8, 18, 26, 27, 29, 35, 73, 75, 78, 82-83, and 87, and 89 are now pending in this application. Claims 2, 5-7, 9-17, 19-25, 28, 30-34, 36-72, 74, 76, 77, 79, 80, 81, 84-86, and 90-121 were cancelled previously, and claim 88 is cancelled by this amendment in view of claim 1 as-amended, without prejudice or disclaimer. Claim 1 is amended herein. Exemplary support for these amendments can be found in the claims and specification as originally filed, for example, at original claim 88 and paragraphs [0089]-[0091] of the specification as-published (U.S. Application Publication 2004/0120920 A1). Accordingly, the specification provides written description support for these amendments, and no new matter has been added.

**I. Interview Summary**

Applicants thank the Examiner for her courtesy in granting a telephonic interview with Applicants' representatives, Adam M. Breier and Lauren L. Stevens, on January 15, 2010. The Examiner provided Applicant's representatives with an Examiner's Interview Summary on January 21, 2010. Therefore, this paper is timely filed. Applicants note that Dr. Stevens's name appears to have been inadvertently omitted from the Interview Summary form.

M.P.E.P. § 713.04 provides eight items (A-H) that should be addressed in Applicant's submission of the substance of the interview. Applicant's submissions regarding each of those items follow.

- (A) No Exhibit was shown at the interview.
- (B) Claims 1 and 88 were discussed.

(C) The interview included a discussion of U.S. Patent No. 6,663,855 to Frechet et al. ("Frechet A"), U.S. Patent No. 6,685,925 to Frechet et al. ("Frechet B"), U.S. Patent No. 6,197,883 to Schimmel et al., or U.S. Patent No. 6,153,206 to Anton et al. ("Anton"), in view of U.S. Patent No. 5,994,446 to Graulus et al. ("Graulus"), U.S. Patent No. 6,518,364 to Charmot et al. ("Charmot"), or U.S. Patent No. 6,410,666 to Grubbs et al. ("Grubbs").

(D) The possible amendment of claim 1 to incorporate the limitation of claim 88 and the possibility of limiting the content of the claimed polymers with respect to heteroatom-containing monomers were discussed at the interview.

(E) The arguments discussed at the interview are those presented in the Amendment and Reply filed December 23, 2009, including the arguments that it would not be obvious to one of ordinary skill in the art to increase the polydispersity index of the block polymers of Frechet, Anton, and Schimmel in view of the teachings of Graulus, Grubbs, and Charmot, and that Schimmel does not teach or suggest all of the structural limitations regarding the random intermediate block of the polymers of claim 1.

(F) An additional pertinent matter discussed at the interview was the possibility of comparative data concerning polymers with different polydispersity indices.

(G) The outcome of the interview was that the Examiner agreed to consider all issues in the next Office Action.

(H) This interview was by telephone, so this item does not apply.

## **II. Rejections Under 35 U.S.C. § 103(a)**

According to the Office Action of September 28, 2009 ("Office Action"), claims 1, 3-4, 8, 18, 26, 27, 29, 35, 73, 75, 78, 79, 81-83, and 87-89 under 35 U.S.C. § 103(a)

stand rejected as allegedly unpatentable over U.S. Patent No. 6,663,855 to Frechet et al. ("Frechet A"), U.S. Patent No. 6,685,925 to Frechet et al. ("Frechet B"), U.S. Patent No. 6,197,883 to Schimmel et al., or U.S. Patent No. 6,153,206 to Anton et al. ("Anton"), in view of U.S. Patent No. 5,994,446 to Graulus et al. ("Graulus"), U.S. Patent No. 6,518,364 to Charmot et al. ("Charmot"), or U.S. Patent No. 6,410,666 to Grubbs et al. ("Grubbs"). See Office Action at 3-10. Applicants respectfully disagree and traverse for the reasons of record, including the reasons presented in the Amendment and Reply filed December 23, 2009.

By this Supplemental Amendment, Applicants have further amended independent claim 1. To the extent that the Office may consider rejecting amended independent claim 1 and its dependents based on the above-listed references, Applicants respectfully submit that these references, taken as a whole, fail to establish a prima facie case of obviousness with respect to the subject matter recited in amended independent claim 1 for the additional reasons below. Applicants respectfully traverse for the reasons of record and the additional reasons presented below.

**Schimmel**

Applicants believe that the claims are distinct from Schimmel in view of the secondary references for the reasons of record. However, solely to facilitate prosecution and without acquiescing to the Office's rationale, Applicants have amended independent claim 1 to further distinguish it from Schimmel.

***Monomer types***

Claim 1 as-amended now recites that "said intermediate block does not comprise acrylates or methacrylates comprising a -COOR side chain in which R comprises an

intercalated heteroatom chosen from O, N and S.” As an initial matter, Applicants respectfully point out that basis for this negative limitation can be found, for example, at paragraphs [0090] to [0091] of the specification as published, in accordance with M.P.E.P. § 2173.05(i) (“If alternative elements are positively recited in the specification, they may be explicitly excluded in the claims”).

The Office relies on Schimmel's alleged disclosure of a hydroxyl functional ethylenically unsaturated monomer in each of the first and second blocks in a random or gradient fashion to allegedly satisfy the limitations concerning the random intermediate block (see Office Action at 6-7 and 10). Applicants respectfully submit that claim 1 as amended does not encompass the inclusion of the hydroxyl functional ethylenically unsaturated monomer in the random intermediate block. Furthermore, Schimmel does not contemplate substituting a monomer of any of types (a)-(d) for the hydroxyl functional ethylenically unsaturated monomer in order to meet the limitation that, in the random intermediate block, “the monomers chosen from monomers of types (a) and (b) [are] interspersed with the monomers chosen from monomers of types (c) and (d).” See Schimmel at col. 6, ll. 11-26. The hydroxyl functional ethylenically unsaturated monomer is explicitly defined in this paragraph of Schimmel, and Schimmel's definition does not include acrylate and (meth)acrylate monomers of types (a)-(d), as recited in the pending claims.

The secondary references, Graulus, Grubbs, and Charmot, do not remedy that deficiency because they do not contain any teaching that would lead one of ordinary skill to contravene Schimmel's teachings regarding the hydroxyl functional ethylenically

unsaturated monomer. Thus, one of ordinary skill would not modify the disclosure of Schimmel to meet all limitations of the claims in view of the secondary references.

*Polydispersity index*

Furthermore, Schimmel does not teach or suggest a polymer with a polydispersity index ranging from 2.8 to 6. The Office alleges that the secondary references, Graulus, Grubbs, and Charmot, remedy this deficiency as to the previous version of the claims, which recited that the polydispersity index ("PDI") was greater than or equal to 2.5, and also that Schimmel discloses a value abutting the previously claimed range. Schimmel does not disclose a range abutting the range recited in claim 1 as-amended. Furthermore, one of ordinary skill would not modify Schimmel to meet this limitation (as well as all other limitations), as explained in the Amendment and Reply filed December 23, 2009, at 13-17.

In an effort to expedite prosecution, a Declaration under 37 C.F.R. § 1.132 in which a polymer according to the disclosure and within the scope of claim 1 is compared to a polymer with a lower PDI is attached hereto. Despite similar monomer content, the polymer according to the disclosure exhibited less brittleness and viscosity than the comparative polymer. Applicants respectfully submit that these beneficial properties would not have been predictable to one of ordinary skill in the art because each of the secondary references teaches that higher PDIs are undesirable or problematic and/or that lower PDIs represent improvements. These teachings were pointed out in the Amendment and Reply filed December 23, 2009, at 15-16.

The Declaration shows that the polymer according to the disclosure differs from what Graulus, Grubbs, and Charmot would lead one of ordinary skill to expect. The lack

of brittleness relative to the comparative polymer can render the polymer of the disclosure more suitable for various cosmetic uses, including, for example, as a nail polish, because the film formed by the polymer is less prone to crack. The lower viscosity can also be beneficial, in that it is possible to use the polymer at a higher concentration in a composition without making the concentration overly viscous.

Thus, Applicants respectfully submit that the content of Schimmel in view of the secondary references would not render the claimed polymers, including their recited PDI range and all other limitations, obvious to one of ordinary skill, at least because of the unpredictability of the properties of the claimed polymers. Applicants respectfully point out that “[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been **predictable** to one of ordinary skill in the art.” M.P.E.P. § 2143.01(III), citing *KSR International Co. v. Teleflex Inc.*, 82 U.S.P.Q.2d 1385, 1396 (S.Ct. 2007); emphasis removed and added. Applicants respectfully request withdrawal of this obviousness rejection for this additional reason.

#### **Anton**

Like Schimmel, Anton does not teach or suggest a polymer with the claimed PDI that also meets all other limitations of the claims. The secondary references, Graulus, Grubbs, and Charmot, do not remedy the deficiencies of Anton for the same reasons that they do not remedy the deficiencies of Schimmel, as discussed above with respect to PDI. The secondary references teach away from using high PDIs such as those of the claimed ranges, and they do not establish predictability of the beneficial properties of the claimed polymers, meaning that the claimed polymers are not obvious in view of

these references. Therefore, Applicants respectfully request the withdrawal of this rejection as well.

**Frechet**

Like Schimmel, Frechet A and B do not teach or suggest a polymer with the claimed PDI that also meets all other limitations of the claims. The secondary references, Graulus, Grubbs, and Charmot, do not remedy the deficiencies of Frechet A and B for the same reasons that they do not remedy the deficiencies of Schimmel and Anton, as discussed above with respect to PDI. Therefore, Applicants respectfully request the withdrawal of these rejections as well.

In addition, Applicants have amended independent claim 1 to recite, “wherein the block polymer is not an elastomer.” Non-elastomericity is discussed in detail in the specification at paragraphs [0029]-[0042], including a definition in paragraph [0030] and a method for determination of elastomeric nature beginning at paragraph [0032]. Applicants respectfully submit that the limitation that the claimed polymers are non-elastomeric further distinguishes them from the polymers of Frechet A and B.

Both Frechet A and B indicate that their polymers are elastomeric. “In a first aspect, the present invention provides a cosmetic or personal care composition comprising a thermoplastic elastomer which is a block copolymer . . . .” Frechet A at col. 2, ll. 55-57; emphasis added. Material identical to the foregoing quoted text appears in Frechet B at col. 2, ll. 53-55. Although both passages refer to the composition comprising a thermoplastic elastomer as a “first aspect,” in both Frechet A and B, the only other disclosed aspects are a method of treating hair comprising applying the composition, and use of the composition for cosmetic treatment. Frechet A

at col. 2 l. 65 - col. 3 l. 3, and Frechet B at col. 2, ll. 62-67. Thus, the non-elastomeric polymers of claim 1 are distinct from the polymers of both Frechet references because elastomericity is a fundamental and non-optional feature of the latter.

Applicants respectfully submit that the secondary references do not remedy this deficiency because they do not contain teachings that would lead one of ordinary skill to deviate from a fundamental feature of the polymers of Frechet. Therefore, Applicants respectfully request the withdrawal of these rejections as well.

**Conclusion**

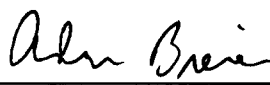
Applicants respectfully submit that the claimed subject matter is not obvious over the cited references for the above reasons and the reasons of record, and request withdrawal of the rejections under 35 U.S.C. § 103(a). If the Examiner believes a telephone conversation would be helpful in resolving any remaining issues, she is respectfully invited to contact the undersigned.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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**Attachments:** Declaration under 37 C.F.R. § 1.132